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## (57) Abstract

**Technical problem** The new germicide which has the high prevention effectiveness to plant disease, especially rice rice blast, etc. is offered without having a bad influence on crops.

**Means for Solution** General formula 1

W expresses among type the hetero aryl group which may be permuted by Xn, A expresses an oxygen atom etc., R1 expresses a hydrogen atom etc., and R2 expresses C1 - C6 alkyl group, etc. R3 C2 - C6 alkyl group, etc. are expressed, Q expresses an ethynyl group etc., R4 expresses C1 - C6 alkyl group, etc., X expresses C1 - C6 alkyl group, etc., and n expresses the integer of 0-4. The germicide for plantation arts which makes an active principle the heteroaryloxy (thio) alkane acid-amide derivative and these which are shown by being alike.

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## Claim(s)

**Claim 1** General formula 1 Formula 1

W expresses among type the hetero aryl group which may be permuted by Xn. A

expresses an oxygen atom or a sulfur atom, and R1 expresses a hydrogen atom, C1 - C6 alkyl group, or C3 - C6 cycloalkyl radical. R2 Expressing C1 - C6 alkyl group, or C3 - C6 cycloalkyl radical, R3 is C2 - C6 alkyl group, and C3 - C6 cycloalkyl radical (this radical may be permuted by the halogen atom, or C1 - C6 alkyl group.). whether C3 - C6 cycloalkyl C1 - C6 alkyl group, or C1 - C4 halo alkyl group is expressed and Or R2 and R3 are the cycloalkyl radical (this radical may be permuted by C1 - C6 alkyl group.) of 5 members - 7 membered ring in the carbon atom which combined each other and these have combined. Forming, Q is an ethynyl group, a cyano group, and a radical. - They are COR4 or a radical. - It is CH (OH). R4 It expresses. R4 is C1 - C6 alkyl group, C1 - C4 halo alkyl group, or C3 - C6 cycloalkyl radical (this radical may be permuted by the halogen atom, or C1 - C6 alkyl group.). It expresses. X C1 - C6 alkyl group, C2 - C6 alkenyl radical, C2 - C6 alkynyl group, C3 - C6 cycloalkyl radical, C1 - C4 halo alkyl group, C1 - C6 alkoxy group, C2 - C6 alkenyloxy radical, C2 - C6 alkenyloxy radical, C3 - C6 cycloalkyloxy radical, C1 - C4 haloalkoxy radical, C1 - C6 alkylthio group, C2 - C6 alkenyl thio radical, C2 - C6 alkynylthio radical, C3 - C6 cyclo alkylthio group, C1 - C4 halo alkylthio group, A halogen atom, a phenyl group (this radical may be permuted by C1 - C6 alkyl group, C1 - C4 halo alkyl group, C1 - C6 alkoxy group, the cyano group, or the halogen atom.) expressing a cyano group or a nitro group, n expresses the integer of 0-4. The heteroaryloxy (thio) alkane acid-amide derivative shown by being alike.

**Claim 2** The compound according to claim 1 whose W is the pyrazolyl radical which may be permuted by Xn, respectively, a thoria ZORIRU radical, an oxazolyl radical, an iso oxazolyl radical, a thiazolyl radical, an iso thiazolyl radical, an oxadiazolyl radical, a thiadiazolyl radical, a pyrazinyl radical, a pilus DAJINIRU radical, an indolyl radical, an indazolyl group, a benzothiazolyl radical, a benzoxazolyl radical, a benzimidazolyl radical, an iso quinolyl radical, a SHINNORINIRU radical, a phthalazinyl radical, a kino KISARINIRU radical, or a naphthyridinyl group and whose Q is a cyano group.

**Claim 3** The pyrazolyl radical, thoria ZORIRU radical by which W may be permuted by Xn, respectively, An oxazolyl radical, an iso oxazolyl radical, a thiazolyl radical, an iso thiazolyl radical, An oxadiazolyl radical, a thiadiazolyl radical, 2-pyrimidinyl group, a pyrazinyl radical, A pilus DAJINIRU radical, a thoriadinyl group, an indolyl radical, an indazolyl group, A benzothiazolyl radical, a benzoxazolyl radical, a benzimidazolyl radical, It is a quinolyl radical, an iso quinolyl radical, a SHINNORINIRU radical, a phthalazinyl radical, a kino KISARINIRU radical, or a naphthyridinyl group, and Q is an ethynyl group and a radical. - COR4 or radical - CH (OH) Compound according to claim 1 which is R4.

**Claim 4** W is the pyrazolyl radical which may be permuted by Xn, respectively, a thoria ZORIRU radical, a thiazolyl radical, a thiadiazolyl radical, 2-pyrimidinyl group, a pyrazinyl radical, a pilus DAJINIRU radical, a thoriadinyl group, a benzothiazolyl radical, a benzoxazolyl radical, a benzimidazolyl radical, a quinolyl radical, a phthalazinyl radical, or a kino KISARINIRU radical, and Q is an ethynyl group and a radical. - COR4 or radical - CH (OH) Compound according to claim 1 which is R4.

**Claim 5** The germicide for plantation arts which contains a heteroaryloxy (thio) alkane acid-amide derivative according to claim 1 to 4 as an active principle.

## Detailed Description of the Invention

### 0001

**Field of the Invention** This invention relates to the germicide for plantation arts which contains the heteroaryloxy (thio) alkane acid-amide derivative and this which are reference a non-indicated new molecular entity as an active principle.

### 0002

**Description of the Prior Art** It is known that a certain kind of heteroaryloxy carboxylic-acid derivative has bioactive. For example, it is shown in the JP,61-4395,B official report specification and the international public presentation number WO 93/No. 25540 official report specification that the compound whose hetero aryl groups are a benzothiazolyl radical and a 2-pyrimidinyl group has weeding-out activity. Moreover, it is shown in the JP,63-132867,A specification that the compound whose hetero aryl groups are 2-pyrimidinyl group and a quinolyl radical has sterilization activity. However, the sterilization activity of these compounds is not satisfied and having outstanding sterilization activity like this invention compound is not indicated at all.

#### **0003**

**Problem(s) to be Solved by the Invention** In recent years, the resistant bacteria to drugs appear by multiple use of the germicide for plantation arts, and sterilization activity sufficient with the existing drugs may not be shown. Moreover, the new germicide which can prevent a destructive fungus efficiently by low concentration from an environmental problem is called for.

#### **0004**

**Means for Solving the Problem** They came to complete a header and this invention for not doing damage at all to useful crops while they had the sterilization activity in which this invention compound was excellent to rice rice blast etc., when this invention persons compounded various new heteroaryloxy (thio) alkane acid-amide derivatives and examined the bioactive, in order to develop the drugs which have the sterilization activity which surpasses the germicide known conventionally.

**0005** That is, this invention is (1) general-formula **1** **0006**.

#### **Formula 2**

**0007** W expresses among type the hetero aryl group which may be permuted by Xn. A expresses an oxygen atom or a sulfur atom. and R1 expresses a